

CASE REPORT

Superhero-related injuries in paediatrics: a case series

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Five cases of serious injuries to children wearing superhero costumes, involving extreme risk-taking behaviour, are presented here. Although children have always displayed behaviour seemingly unwise to the adult eye, the advent of superhero role models can give unrealistic expectations to the child, which may lead to serious injury.

The children we saw have all had to contemplate on their way to hospital that they do not in fact possess superpowers. The inbuilt injury protection which some costumes possess is also discussed.

CASE 1

A 6-year-old boy was brought into the emergency department by ambulance after having fallen from a first-floor window. This was an unwitnessed fall. He was wearing a Spiderman outfit with anatomically correct upper body muscle padding. He had a large haematoma over his right frontal region, a closed right eye and a swelling over his right foot. It was not known if he had lost consciousness at the time of the fall. His Glasgow Coma Score was 14. He had no amnesia and gave a clear history that he had been playing at being Spiderman and climbed out of the window himself.

A computerised tomography scan of the brain, and plain x rays of the cervical spine, chest, pelvic and facial bones were normal. Minor dental injuries were treated conservatively. He had a fracture of his right fourth and fifth metatarsal bones. He had no injuries or contusions in the region covered by his outfit. He was discharged the next day with advice. At discharge, he was noted to be playing a James Bond computer game.

CASES 2–5

We were unable to retrospectively identify (and therefore gain consent for the full case histories) of the other four cases, which were boys aged between 3 and 8 years, owing to time intervals and our high patient throughput. Three of them tried to imitate Spiderman and one Superman. Three were injured after initiating flight without having planned for landing strategies. Three had fractures (supracondylar and radius/ulna) needing general anaesthetic reduction, with one having only a simple laceration to the forehead. One of these four required a computed tomography scan of the brain, which was normal.

DISCUSSION

We are strong advocates of adventurous play and believe that risk taking is an inherent, important part of childhood. Imaginary role models are an essential part of growing up and it is important not to deny children their unrealistic dreams, whether it be scaling the sides of buildings, flying or playing football for England.

However, parents need to be aware that children may believe that their abilities have been given a super-boost with an appropriate costume. Parents whose children dress up as Bob the Builder should understand that hammers and saws are highly likely to be used in play. The parents of Spiderman

aficionados should ensure that windows are correctly closed and locked. Superman's parents may find it easier to encourage their children to wear glasses, and Wonderwoman's parents may wish to give early fashion advice and not tell lies.

It is interesting to note the lack of injuries on the torsos of our two cases, where the children had worn anatomically correct costumes. We believe that the inherent padding of the imitation muscles (fig 1) may have spared them from significant further trauma. This is in contrast with other superhero costumes which do not have similar inbuilt protection.

There has been little research into the effect of superheroes on children. A paper published in the German journal *Praxis der Kinderpsychologie und Kinderpsychiatrie* compared the psychological effects of superhero comics and nursery rhymes.¹ Although nursery rhymes have been shown to have increased levels of violence compared with pre-watershed television viewing,² Hammon concluded that "superhero comics are dangerous for severely disturbed children, but fairy tales are certainly beneficial".



Figure 1 Padded Spiderman costume.

The American National Association for the Education of Young Children (<http://www.naeyc.org>) produces a help sheet for parents called "When children imitate superheroes". Helpful advice offered includes "Point out the difference between movies, TV, and real life", and "talk about real heroes and heroines with children ... like Helen Keller and Martin Luther King Jr".

Keeping children safe is a very common theme in public health. From baby car seats to swimming pool fencing, legislation helps to prevent childhood morbidity and mortality. There is a huge array of safety adjuncts available in the open market, including a foam helmet aimed at minimising head injuries in normal toddlers learning to walk (<http://www.thud-guard.com>). However, nothing can replace good parental supervision. There is evidence that wearing safety equipment can lead to increased injury owing to the risk compensation effect,³ where a safely equipped person takes more risk because of a lower perceived risk of injury.

We note that all our cases were boys and supermen or spidermen. Commercial role models for girls are less likely to show risk-taking behaviour; for instance, none of the authors have ever experienced any "My Little Pony"-related injuries. It is also striking that four of five cases were spidermen, a situation which is likely to change in the near future with the imminent release (at the time of writing) of a new Superman movie. Although the merchandising bombardment is yet to be released, we anticipate a rush of injured supermen to come through our department in the next few months.

CONCLUSION

Children have an extraordinary ability to injure themselves and will find new ways to do so in the future. Parents, however, should be aware that a superhero costume can provoke perceived super-abilities which need special supervision.

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IMAGES IN PAEDIATRICS.....

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Para-phenylenediamine allergy from a henna tattoo

A 10-year-old girl presented with an eczematous eruption after a family holiday in Goa. She had a henna tattoo on her right upper arm at the start of the holiday without any reaction. Two weeks later, before returning to the UK, she had further henna tattoos, one on each arm (fig 1).

Allergic contact dermatitis to para-phenylenediamine, an aniline derivative, is seen with increasing frequency in children. Para-phenylenediamine is mixed with henna to darken temporary henna tattoos.

In this patient, sensitisation occurred on initial exposure to the henna tattoo, with subsequent dermatitis occurring within 24 h of re-exposure.

Advice must be given to avoid para-phenylenediamine in henna tattoos and in black hair dye in the future.

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Figure 1 Henna tattoo on left upper arm.